

Solid Waste Management:

A Manufacturer's Perspective

by

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Introduction

As you may know, Procter & Gamble has been quite active in the solid waste field on a number of fronts; and we have learned about a lot of approaches that communities use to manage solid waste. This is an incredibly dynamic field, with no one "best way." In fact, I don't think there will ever be a single best way for the whole country.

I would like to start by making sure we are all beginning this inquiry at the same place. Our solid waste needs are real, growing, and changing.

So, where are we?

I will limit my comments to municipal solid waste--the stuff that goes to landfills. I mention this because sometimes people mix solid waste issues with litter, marine and wildlife protection, ocean dumping, and the next election platform.

The good news is that we can help.

I am absolutely convinced that there is nothing here that is impossible--no magic required, no rocket science, no major upheavals. In fact, there are many examples around of how to do everything necessary to get control of our municipal solid wastes. So a lot of what needs to be done to get started is to go school in those places that are already dealing with it.

So, what is the solid waste "system"? It goes something like this:

1. Industry makes the goods.
2. The public buys them, uses what they want; and
3. throws the rest away.

A lot of us would love to find a silver bullet solution. How does that show up? Usually we try to define some sort of bad guy so that we can shoot him. The bad guy may be portrayed as fast food packaging, disposable diapers, foamed polystyrene, or something else.

I am not suggesting that we ignore any of these things. But there are two problems with trying to solve solid waste by shooting bad guys. First, there isn't any single bad guy. And, in fact, the things usually chosen are almost invariably trivial. If we totally eliminated all fast food packaging, disposable diapers, and foamed polystyrene cups, we would still have over 95 percent of our solid waste left.

I guess if you are really intent on hunting down a bad guy, I would suggest yard waste or newspapers. These are the two biggest single items--but even eliminating them will not get the job done.

The second problem with bad guy hunting is that it usually turns out to be incredibly distracting. When we get heavily involved in focusing on any single aspect of this system we short-change the rest of it and the total system needs adjusting.

Who's the boss?

Who's running the system--I mean who really controls what it does? Is it industry? the public? both? nobody? This is extremely important because it focuses our energy on dealing with solutions, not just looking for causes.

A lot of people have concluded that industry is the boss. I mean, if industry just stopped offering such wasteful, bulky packages and products the problem would go away--right? Perhaps in a planned society it might; but it's not that simple. Let's take a closer look.

In our business, the moment of truth happens when the consumer reaches for the product of her choice from the store shelf. This is how consumers vote--every day.

Procter & Gamble has been in the business of meeting consumer needs for 150 years. And, in spite of what some people believe, our advertising does not lead people to buy things they don't want. It may lead them to try something new, but if the product does not meet their needs, does not do what they want, does not appeal to them because of what it is rather than because of what we say about it, they don't buy it again.

Based on everything we know, the American public is the primary driver of our solid waste system. The stuff in our trash cans is filling up the landfills.

Source Reduction

So what can be done? Let's start with industry. Procter & Gamble has committed to major programs in source reduction and recycling; and we are working hard to encourage other firms to make similar commitments. Let's take a look at what can be done.

We use the EPA Hierarchy of solid waste solutions that has become the standard throughout the field.

Source reduction means there will be less waste to deal with after a product is used. Our first source reduction category is *material efficiency*--simply more efficient use within current designs--sometimes known as *lightweighting*. Most firms have this kind of program already under way as part of their cost control efforts. An example is reducing the amount of plastic in bottles.

Another way to reduce waste is to make *combination products* such as Tide with bleach, or Bold with fabric softener. That means one less package for bleach or fabric softener.

Still another category of source reduction is *concentration*--using a condensed or concentrated form of a product. For example, Ultra Pampers have been redesigned to be 50 percent less bulky than the previous model and actually are more absorbent. In addition, the plastic bag used for packaging uses 70 percent less material than the previous box.

We also have a concentrated laundry detergent in Japan that is 60 percent of the bulk of its predecessor.

There is a very important fact to note about all these examples: they do not require any significant change in consumer habits. We have learned through expensive experience that changing consumer habits is tough; so we prefer to stick with existing habits and preferences if possible.

After concentration comes *refill/reuse*. This means that you buy a package once, then refill it from some other source, such as a larger container. For example, our 25-pound Tide box is a very material-efficient package. The largest size box of Tide sold--42 ounces--has 2.3 times the amount of packaging. Of course, the larger box is corrugated cardboard, rather than the thinner chipboard. But the smaller boxes also require an outer corrugated shipping case actually bigger than our 25-pound box. Bigger is definitely material efficient.

Another example is Lenor, the German version of Downy fabric softener in a pouch, a more efficient container. The pouch is both a refill package and a concentrate. The consumer buys a pouch full of concentrated fabric softener, cuts off the corner and pours it into bottle, adds water, shakes it up. Then s/he has four liters of Lenor and only a little pouch to throw away.

Our goal is 10 percent source reduction. The Lenor pouch represents a 90 percent source reduction--90 percent less material than the corresponding bottle. Some of you might be saying, "Sure, but who's going to go through all that trouble--cut, pour, fill, shake? That's a pain." You are right, it is a pain. In fact, this package lost for every packaging attribute we tested except one--intent to purchase. It has been on the market over a year now and is still growing steadily. Incidentally, our major German com-

petitors have paid us their highest compliment--they have copied it with versions of their own.

Remember our question about who is the boss? In Germany the consumers are clearly the driving force in Lenor's success. Why? Because they are personally affected by Germany's solid waste problem--most homes get only two smallish cans for trash per week. Consumers are acutely aware of their landfill limitations.

This product is especially material efficient because it is a combination of two source reduction categories--concentration and refill packaging. Are we planning something like the Lenor pouch for the United States? Yes, we will test it this year on the East Coast. But, to be honest, I am not sure it will sell. There are already examples of solid waste efficient packages available and most of them do not do very well if they require much compromise on the consumer's part.

We are serious about source reduction and think a 10 percent level is reachable--IF consumers directly experience the solid waste crunch in ways that they can affect, as the Germans who buy Lenor do.

The key question is whether consumers are personally affected enough to voluntarily change their purchase and disposal habits. Think about it; if your first can of trash cost \$2, the second \$4, and the third \$10, would you rethink some of your habits?

Recycling

The EPA has called for a 25 percent recycle rate by 1992. How do we do that? We have to do it the same way we do everything else--we make it a priority, allocate resources and start.

We have a Spic & Span Pine bottle made from 100 percent post-consumer recycled PET; there is not a gram of new material in it. It passes all requirements specified for the virgin resin bottle.

Last spring we announced that Downy, Tide, and Cheer laundry product bottles are now qualified with 20 to 30 percent recycled HDPE. High Density is harder to incorporate back into our bottles than is PET, so we have a long learning process ahead of us. But this is a good start.

We use over 100 million pounds of HDPE a year for Procter & Gamble bottles alone. In fact, we would move even faster if our suppliers could establish good sources for recycled material

of consistent quality and quantity. We are actively trying to fill this need through a variety of means.

Recently we announced two new diaper projects. One is to recycle soiled diapers back into high grade paper and plastic which can be used to manufacture plastic goods. Another is to compost the soiled diapers for soil conditioners. Although we are just getting started on these projects, initial indications of success are very promising.

Of the 1½ billion cartons Procter & Gamble manufactures every year, 70 percent are made from recycled fiber and the other 30 percent eventually will be. We are also beginning to recycle the solid waste from offices and plants. Remember, on average 40 percent of municipal solid waste comes from business, institutions, and industry.

Now I would like to venture onto some thin ice and talk about the pitfalls we've seen some areas stumble into as they set up recycling systems. First, let me start with one area of 100 percent strength--motivation. Every recycling person I have dealt with at the state of local level believes in recycling and really wants to do it. Furthermore, the evidence is pretty strong that the public likes the idea too. Most people are willing to participate. That's absolutely wonderful.

Many communities start with some sort of voluntary drop-off or buy-back system and get perhaps a 10-20 percent participation rate. That means 10 to 20 percent of the total potential population actually brings in material.

This often raises the first key question--economics. Should recycling be free to the public; should people be paid for recycling; or should the recycling program be treated as a lower-cost alternative to a landfill or incineration and be partially supported by public funding?

Drop-off programs typically save two of the biggest costs--collection and sorting--so they can usually stand on their own. But they often don't collect a lot. So the question is how to expand. I know of no large-scale recycling programs that are totally funded by the value of the recovered materials. Something else must be considered.

A chart from the Center for Recycling Research at Rutgers shows the break-even point for curbside recycling systems using a landfill or incineration avoidance justification. The chart was developed from data from a number of

rather small towns in New Jersey and Rhode Island using costs and material values from over a year ago. However, the principle is very sound. Basically, the chart shows that the only way to do broad-scale efficient recycling is to get a high recovery rate. In other words, the more you collect, the cheaper it gets.

This leads to some common pitfalls. Many communities do what is natural--they start off with drop-off, move to voluntary collection, and then to mandatory collection--often in a very limited geographical area. They may buy some trucks--usually sized for three materials (typically glass, aluminum, and paper)--and take a "learn as we go" attitude to minimize their risk and commitments.

A year or two later they sometimes find that running the truck fleet is inefficient and a burden. They and their public want to recycle more material--usually plastic or steel (tin cans)--to improve the economics; but they are not set up for it. In other words, by adopting a "step-at-a-time" process, they have gradually evolved from a volunteer, citizen effort to trying to run a business--often a rather large business--without being able to achieve economies of scale.

What about *degradability*? What is the truth? We decided to join Dr. Rathje on his Sunnyvale, California, dig. He uses a giant post-hole digger to bring up sample borings. He brings up glass bottles--unbroken glass bottles usually--and totally flat plastic ones. He also recovers, as you may have heard, very readable newspapers. Did you know that one way scientists can tell the age of a landfill is by reading the newspapers they find there? Although most papers will readily degrade in a compost pile or sewage treatment plant, they usually keep pretty well in the dry, oxygen-poor environment typical of most landfills.

Procter & Gamble has been working on biodegradability technology for years as part of our detergent program. Unfortunately, we have no evidence that any of the available degradability plastic technologies will help extend landfill life at all. And this is not just a Procter & Gamble or industry opinion. The Environmental Action Foundation has written an excellent position paper on degradable plastics saying essentially the same thing.

How about the other end--recyclability? We are using the SPI resin code on our plastic bottles. That is one factor to consider as you look at how to educate the public. In our view, plastic recycling must become extremely widespread. We are board members of the plastics Recycling Foundation and the Center for Plastics Recycling Research at Rutgers.

We are strongly encouraging industry to specify recycled material for their products and packages. The supply will develop once people understand that we really want to buy it.

We believe that incineration is an essential part of solid waste management and have made the removal of heavy metals from our inks, dyes, and pigments a company policy and are targeting for total elimination of these elements.

Taxes

Taxes are often considered as a way to force industry to make different kinds of packages. I hope by now you are convinced that there is no single bad guy or group, so packaging taxes must be carefully considered.

We are very concerned that across-the-board per unit package taxes will simply become invisible revenue sources that leave the public no action options, do not lead consumers to change their purchasing or disposal habits, and therefore do little to reduce effectively the nation's solid waste.

Conclusion

We simply must solve this problem together. No single sector can do it alone. It may seem overwhelming at first, but we can manage it. There is no silver bullet solution; so we have to team up. Procter & Gamble wants very much to be part of the process. We have dealt with similar issues, and I am very happy that our top management has decided to get out in front of the solid waste issue and make it a corporate priority. It is coming, as steadily as a runaway supertanker; and it is going to take all of us to come onto the bridge, take the helm, and plot the course.